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THE LYCOPODIACEAE OF OHIO

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Since the publication of a map of the Lycopodiums of Ohio by Griggs[1] in 1913, there have been many more specimens collected, considerably extending the range of some species.

The present paper is a report based upon specimens in the Ohio State Herbarium, Field Museum Herbarium, and that of the author.

On the whole, with a few exceptions, the range of all the species of Lycopodium in the state follows very closely the phytogeographic regions as set by Schaffner. Of these regions, the most important for our purpose is the Allegheny Plateau in the eastern portion of the state, which is divided into three main parts.[2]

Of the seventy-one different localities in which one or more species of Lycopodium have been collected in Ohio, sixty-two are located in the Allegheny Plateau region, and they are about equally well distributed in both the glaciated and non-glaciated portions.

The nine remaining localities are scattered over the central and north-western sections of the state which are not located in the Allegheny Plateau.

Perhaps by careful searching where conditions are favorable, more localities can be found where Lycopodiums may be collected to still further extend the range of some species.

Let us now consider separately, each individual species found in Ohio.

Lycopodium lucidulum Michx. is perhaps the best known and most widely collected species in the state. Its occurrence is mainly on the

[1]Observations on the Geographical Composition of the Sugar Grove Flora, Griggs, 1913.

[2]Revised Catalog of Ohio Vascular Plants, Schaffner, 1932.

Allegheny Plateau, but it has been listed from Allen, Champaign, Clark, and Fulton counties.

Lycopodium porophilum, L. & U.—The typical habitat of this species is cool, shaded, sandstone cliffs such as one finds in the gorges and caves of Hocking county and it should be looked for wherever such conditions occur. It has never been collected in Ohio outside the Allegheny Plateau regions.

Lycopodium inundatum L.—This species does not confine itself to any one region, but grows wherever conditions are favorable, usually in wet, sandy places and is often associated with sphagnum moss. It has been collected in Knox, Portage and Trumbull counties and is frequently found in the Oak Openings of Lucas and Fulton counties.

Lycopodium obscurum L.—Fairly well distributed in the northern and southern Allegheny Plateau regions and is also very often found in the Oak Openings. I have not separated variety *dendroideum* (Michx.) D. C. Eaton.

Lycopodium clavatum L.—Known from nine counties in Ohio and entirely from the Allegheny Plateau regions. Several varieties of this species have been described but due to the fact that not many of the specimens studied had mature fruit, it was deemed advisable to treat them all under the specific name alone.

Lycopodium tristachyum Pursh.—This species is not as well known or as common as some, but once it is distinguished it is never mistaken for any other. In Ohio it has been collected from Ashtabula, Fairfield, Hocking, and Licking counties. The localities are all within the boundaries of the Allegheny Plateau.

Lycopodium complanatum L.—Next to *L. lucidulum*, this is the most widely collected species in the state and also is found only in the Allegheny Plateau regions.

Lycopodium complanatum, var. *flabelliforme* Fernald.—Only one specimen has so far been identified as being this variety. However, the difference is so slight that it may be easily overlooked. The specimen which I have was collected near Swanton, Fulton county, in 1925. During the summer of 1933 I visited the same locality but was unable to find it again.

KEY TO THE LYCOPODIUMS OF OHIO[3]

A. Sporophylls not different from foliage leaves, not in a terminal spike or strobilus.....B.
A. Sporophylls different from foliage leaves, in a terminal strobilus.....C.
B. Leaves broadest above middle, distinctly serrate; plants regularly, dichotomously branched.....*L. lucidulum*
B. Leaves sometimes broader at base, very slightly or not at all serrate; plants erect, dichotomous but branching more frequently.....*L. porophilum*
C. Sporophylls rather herbaceous.....*L. inundatum*
C. Sporophylls scale-like.....D.
D. Strobilus sessile, plant tree-like.....*L. obscurum*
D. Strobilus peduncled.....E.
E. Leaves linear, awl-shaped.....*L. clavatum*

[3]Key adapted from Wilson—Preliminary Reports on the Flora of Wisconsin, IV.

E. Leaves scale-like.....F.
F. Branches with constrictions.....G.
F. Branches without constrictions, fan-shaped, 1–3.5 mm. wide; ventral median leaves much reduced.....*L. complanatum* var. *flabelliforme*
G. Branches 1–1.5 mm. wide, rather squarish; ventral median leaf reaching or overlapping the one above; plant glaucous.....*L. tristachyum*
G. Branches 1–3 mm. wide, flattened; ventral median leaves much shortened, on the older branches not reaching the one above.....*L. complanatum*

LITERATURE CITED

Griggs, Robert F. 1913. Observations on the Geographical Composition of the Sugar Grove Flora. Bulletin of the Torrey Botanical Club No. 40.

Schaffner, John H. 1905. Lycopodium porophilum in Ohio. The Ohio Naturalist, Vol. V, No. 5, pp. 301.

1912. The North American Lycopods Without Terminal Cones. The Ohio Naturalist, Vol. XII, No. 6.

1932. Revised Catalog of Ohio Vascular Plants. Ohio Biological Survey Bulletin No. 25.

1933. Additions to the Revised Catalog of Ohio Vascular Plants, No. 1. Ohio Journal of Science, Vol. XXXIII, No. 4, pp. 288–294.

Transeau, E. N., and Williams, P. E. 1929. Distribution Maps of Certain Plants in Ohio. Ohio Biological Survey Bulletin No. 20.

Wilson, Leonard R. Preliminary Reports on the Flora of Wisconsin. IV. Lycopodiaceae, Lycopodium. Transactions of the Wisconsin Academy of Sciences, Arts, and Letters, Vol. XXV, pp. 169–175.

Prehistoric Chinese

Little did we think that when J. Gunnar Andersson went to China in 1914 as Advisor to the Chinese Government on Mining that twenty years later we would see him in the light of a discoverer of the first definite records of fossil man in Asia, north of the Himalayas. It is a far cry from the discovery and exploration of the Yen Tung Shan iron ores to the little cave some 37 miles southwest of Peiping which he heard contained "dragon bones." This cave, known as Chou K'ou Tien, yielded the now famous Pekin Man, so ably described by the late Davidson Black under the name **Sinanthropus pekinensis.** This discovery came about in a most natural way. Andersson had become interested in the well known Chinese medicine "Dragon Bones"; trailing down their source he found the deposits where they were preserved as fossils, finding there the first dinosaur from a definite locality. From that time on any deposits which contained dragon bones were searched. This lead him to the cave and the discovery of the Pekin Man.

In his eleven years of traveling in China, the loess, or as the Chinese call it, the Huang T'u (Yellow Earth), that great blanket of yellow earth which covers much of China, drew him to a study of what it had hidden away in its beds. Here he found below the loess some Paleolithic sites and at or near the top some Neolithic sites as well.

It is impossible to do justice to the great mass of information packed between the covers of this book in a review. As a geologist the author gives us a very complete summary of the geology of China for the regions he discusses. Included in this are his contributions and discoveries as well. The careful use of illustrations increases the usefulness of the book.

Our thanks to Professor Andersson for giving us a not too technical taste of the great amount of work that he was able to accomplish during his time in China. The publishers, too, have done their part well in giving us this interesting book on the ancient men of China.—WILLARD BERRY.

Children of the Yellow Earth. Studies in Prehistoric China, by J. Gunnar Andersson. Translated from the Swedish by Dr. E. Classen. 345 pp. New York: The Macmillan Co., 1934.